



State of Utah

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DIVISION OF OIL, GAS AND MINING

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February 16, 1996

TO: Daron Haddock, Permit Supervisor

FROM: James D. Smith, Reclamation Specialist *DS*

RE: Technical Analysis, Mid-Term Review, Crandall Canyon Mine, Genwal Coal Company, ACT/015/032, Working File, Emery County, Utah

Folder #2

SYNOPSIS

Analysis:

A new Chapter 3 and an addition to Appendix 3-2 were submitted on February 15, 1995 in response to stipulations to the approval of the LBA Amendment. Additional changes to pages 3-8, 3-9, 3-17, 3-18, 3-35, 3-36, and 3-37 were submitted on April 11, 1995. The new materials have been reviewed Sharon FALVEY, Wayne WESTERN, and Paul BAKER and appear to satisfy the stipulations. Some of the problems were worked out directly between Genwal and the USFS and State Lands, but there are letters in the DOGM correspondence files that provide a paper trail through those discussions.

The stipulations to the approval of Amendment 95C have been satisfied. However, because of concerns of the USFS that the entire length of Crandall Creek requires protection as a perennial stream and the concerns of Utah State Trust Lands that coal recovery be maximized beneath the State leases, Genwal has submitted several modifications to the longwall mining plan that are still being analyzed by DOGM, USFS, and State Lands.

On August 31, 1995 Genwal was to have completed a plan for minimum stream flow to satisfy USFS concerns regarding dewatering of Crandall Creek. The concern was over water pumped from the stream for use in mine operations rather than losses due to subsidence. The MRP was considered complete at the time the longwall amendment was approved based on the commitment to provide the information. On August 20 Genwal sent a letter to DOGM stating 1) that the minimum flows in Crandall Creek (non-freezing conditions) measured at the lower flume were 0.23 cfs and 0.33 cfs in September 1992. Genwal was pumping 135 gpm (0.3 cfs) for 2 to 3 hours each workday during this period; and 2) a commitment to take no more than half the flow and to pump at lower rates during periods of minimum flow (75 gpm or 0.17 cfs). The letter was not formatted for insertion into the MRP. It is not known if the USFS received a copy of the letter and if the information and commitment in the letter satisfy



their requirement.

Finding:

The changes in Chapter 3, submitted by Genwal in response to the LBA Amendment stipulations, have not been incorporated into the MRP. Some of the changes in Chapter 3, such as those concerning monitoring of seeps and springs for changes in flow and conducting macroinvertebrate studies, need to be incorporated into the appropriate sections of Chapter 7, and perhaps Chapter 5 as well.

TECHNICAL ANALYSIS

OPERATION PLAN

MINING OPERATIONS AND FACILITIES

Regulatory Reference: 30 CFR Sec. 784.2, 784.11; R645-301-231, -301-526, -301-528.

Analysis:

Type and Method of Mining Operations

The Longwall Mining Amendment (95-C) for the Crandall Canyon Mine was submitted to DOGM January 24, 1995 and approved May 19.

USFS does not concur with Genwal's proposal to longwall mine under Crandall Creek, at least until Burnout Creek study is completed in approximately two years. USFS stipulations to the BLM leases do not allow subsidence of perennial streams. Crandall Creek was identified as perennial when the EIS was done for the Federal leases but it is not clear whether or not a new EIS would be needed if other factors indicate that full extraction mining could be done under this stream without causing damage.

On January 10, 1996 Randy GAINER of Genwal and Dale HARBER of USFS discussed the two remaining USFS concerns: the 20 degree angle of draw and subsidence monitoring to show that perennial sections of Crandall Creek are not subsided. These concerns appear to have been resolved satisfactorily based on the angle of draw determination in Appendices 5-2, 5-3, and 5-4 of the approved MRP and the annual subsidence monitoring.

On August 31, 1995 Genwal was to have completed a plan for minimum stream flow

to satisfy USFS concerns regarding dewatering of Crandall Creek. The concern was over water pumped from the stream for use in mine operations rather than losses due to subsidence. The MRP was considered complete at the time the longwall amendment was approved based on the commitment to provide the information. On August 20 Genwal sent a letter to DOGM stating 1) that the minimum flows in Crandall Creek (non-freezing conditions) measured at the lower flume were 0.23 cfs and 0.33 cfs in September 1992. Genwal was pumping 135 gpm (0.3 cfs) for 2 to 3 hours each workday during this period; and 2) a commitment to take no more than half the flow and to pump at lower rates during periods of minimum flow (75 gpm or 0.17 cfs). The letter was not formatted for insertion into the MRP. It is not known if the USFS received a copy of the letter and if the information and commitment in the letter satisfy their requirement.

Findings:

The stipulations to the approval of Amendment 95C have been satisfied. However, because of concerns of the USFS that the entire length of Crandall Creek requires protection as a perennial stream and the concerns of Utah State Trust Lands that coal recovery be maximized beneath the State leases, Genwal has submitted several modifications to the longwall mining plan that are still being analyzed by DOGM, USFS, and State Lands.

The letter concerning minimum measured flow and the commitment to leave at least half the flow during low flow conditions was not formatted for insertion into the MRP.

It is not known if the USFS received a copy of the letter concerning minimum measured flow and the commitment to leave at least one half the minimum flow, and if the information and commitment in the letter satisfy the USFS requirement.

Requirement:

- 1) Clarify whether or not the information in the August 20, 1995 letter to Dave DARBY, concerning minimum measured flow and the commitment to leave at least one half the minimum flow, :
 - a) has been given to the USFS
 - b) whether or not the information and commitment are satisfactory to the USFS.
- 2) Present the information in the August 20, 1995 letter to Dave DARBY (concerning minimum measured flow and the commitment to leave at least one half the minimum flow) in a format to be included in the MRP.

AIR POLLUTION CONTROL PLAN

Regulatory Reference: 30 CFR Sec. 784.26, 817.95; R645-301-252.400 and 420.

Analysis:

The operator's previous Air Quality Permit, issued in 1992, was based on removal of 1.5 million tons of coal per year. With the installation of the longwall system, production in 1995 was 2.08 million tons. In 1995 Genwal applied for an Air Quality Permit for production of up to 2.5 million tons. This permit was issued in December, 1995 and a copy will be included in the 1995 Annual Report. Estimated production by the year 2000 is 3 to 3.5 million tons and Genwal plans to apply for a new permit when needed.

Findings:

The Operator has adequately addressed the requirement of R645-301-252.400 and 420 except for the following:

Requirement:

The MRP needs to be updated to include the 1995 Air Quality Permit.

COAL RECOVERY

Regulatory Reference: 30 CFR Sec. 817.59; R645-301-522.

Analysis:

The Longwall Mining Amendment (95-C) for the Crandall Canyon Mine was submitted to DOGM January 24, 1995 and approved May 19. State Trust Lands had expressed concerns about maximum recovery of coal beneath stream buffer zones and outside longwall panels and wanted first mining by room-and-pillar to be required in those areas. Previous versions of the MRP contained a commitment for uphole drilling one-half mile spacings in the mains of Section 2, to a maximum of 150 feet, to evaluate overlying coal seams for minability. That commitment to uphole drilling was not included in the Longwall Amendment, but it was restored to page 5-7 the MRP in subsequent submittals. The new page 5-7, along with new pages 5-8 through 5-19 were incorporated into the MRP on May 17, 1995.

USFS does not concur with Genwal's proposal to longwall mine under Crandall Creek, at least until Burnout Creek study is completed in approximately two years. USFS stipulations to the BLM leases do not allow subsidence of perennial streams. Crandall Creek was identified as perennial when the EIS was done for the Federal leases but it is not clear whether or not the USFS or BLM would a new EIS would be needed if other factors indicate that full extraction mining could be done under this stream without causing damage.

Findings:

The stipulations to the approval of Amendment 95C have been satisfied. However, because of concerns of the USFS that the entire length of Crandall Creek requires protection as a perennial stream and the concerns of Utah State Trust Lands that coal recovery be maximized beneath the State leases, Genwal has submitted several modifications to the longwall mining plan that are still being analyzed by DOGM, USFS, and State Lands.

SUBSIDENCE CONTROL PLAN

Regulatory Reference: 30 CFR Sec. 784.20, 817.121, 817.122; R645-301-521, -301-525, -301-724.

Analysis:

USFS does not concur with Genwal's proposal to longwall mine under Crandall Creek, at least until Burnout Creek study is completed in approximately two years. USFS stipulations to the BLM leases do not allow subsidence of perennial streams. Crandall Creek was identified as perennial when the EIS was done for the Federal leases but it is not clear whether or not the USFS or BLM would a new EIS would be needed if other factors indicate that full extraction mining could be done under this stream without causing damage.

On January 10, 1996 Randy GAINER of Genwal and Dale HARBER of USFS discussed the two remaining USFS concerns: the 20 degree angle of draw and subsidence monitoring to show that perennial sections of Crandall Creek are not subsided. These concerns appear to have been resolved satisfactorily based on the angle of draw determination in Appendices 5-2, 5-3, and 5-4 of the approved MRP and the annual subsidence monitoring .

Findings:

The stipulations to the approval of Amendment 95C have been satisfied. However, because of concerns of the USFS that the entire length of Crandall Creek requires protection as a perennial stream and the concerns of Utah State Trust Lands that coal recovery be maximized beneath the State leases, Genwal has submitted several modifications to the longwall mining plan that are still being analyzed by DOGM, USFS, and State Lands.

HYDROLOGIC INFORMATION

Regulatory Reference: 30 CFR Sec. 773.17, 774.13, 784.14, 784.16, 784.29, 817.41, 817.42, 817.43, 817.45, 817.49, 817.56, 817.57; R645-300-140, -300-141, -300-142, -300-143, -300-144, -300-145, -300-146, -300-147, -300-147, -300-148, -301-512, -301-514, -301-521, -301-531, -301-532, -301-533, -301-536, -301-542, -301-720,

-301-731, -301-732, -301-733, -301-742, -301-743, -301-750, -301-761, -301-764.

Analysis:

Groundwater Monitoring

A new Chapter 3 and an addition to Appendix 3-2 were submitted on February 15, 1995 in response to stipulations to the approval of the LBA Amendment. Additional changes, which concern monitoring seeps and springs for changes in flow and conducting macroinvertebrate studies, were added to pages 3-8, 3-9, 3-17, 3-18, 3-35, 3-36, and 3-37 were submitted on April 11, 1995.

Surface-water monitoring.

Jill DUFOUR, a fisheries biologist with the USFS, determined that Crandall Creek is perennial up to the Forest Service boundary, although it still is not clear how much farther upstream it is perennial. Randy GAINER and Dale HARBER accompanied Jill for this field work in late August or early September, 1995. The definitions of perennial used by the USFS, DOGM, and other agencies may never be entirely compatible and those differences will continue to create problems in the coal mine permitting process.

On August 31, 1995 Genwal was to have completed a plan for minimum stream flow to satisfy USFS concerns regarding dewatering of Crandall Creek. The concern was over water pumped from the stream for use in mine operations rather than losses due to subsidence. The MRP was considered complete at the time the longwall amendment was approved based on the commitment to provide the information. On August 20 Genwal sent a letter to DOGM stating 1) that the minimum flows in Crandall Creek (non-freezing conditions) measured at the lower flume were 0.23 cfs and 0.33 cfs in September 1992. Genwal was pumping 135 gpm (0.3 cfs) for 2 to 3 hours each workday during this period; and 2) a commitment to take no more than half the flow and to pump at lower rates during periods of minimum flow (75 gpm or 0.17 cfs). The letter was not formatted for insertion into the MRP. It is not known if the USFS received a copy of the letter and if the information and commitment in the letter satisfy their requirement.

Stream buffer zones.

USFS does not concur with Genwal's proposal to longwall mine under Crandall Creek, at least until Burnout Creek study is completed in approximately two years. USFS stipulations to the BLM leases do not allow subsidence of perennial streams. Crandall Creek was identified as perennial when the EIS was done for the Federal leases but it is not clear whether or not the USFS or BLM would a new EIS would be needed if other factors indicate that full extraction mining could be done under this stream without causing damage.

Findings:

The changes in Chapter 3 concerning monitoring of seeps and springs for changes in flow and conducting macroinvertebrate studies need to be incorporated into the appropriate sections of chapter 7.

The stipulations to the approval of Amendment 95C have been satisfied. However, because of concerns of the USFS that the entire length of Crandall Creek requires protection as a perennial stream and the concerns of Utah State Trust Lands that coal recovery be maximized beneath the State leases, Genwal has submitted several modifications to the longwall mining plan that are still being analyzed by DOGM, USFS, and State Lands.

The letter concerning minimum measured flow and the commitment to leave at least half the flow during low flow conditions was not formatted for insertion into the MRP.

It is not known if the USFS received a copy of the letter concerning minimum measured flow and the commitment to leave at least one half the minimum flow, and if the information and commitment in the letter satisfy the USFS requirement.

Requirement:

- 1) Incorporate the changes concerning monitoring of seeps and springs for changes in flow and conducting macroinvertebrate studies (from the revised chapter 3) into the appropriate sections of chapter 7.
- 2) Clarify whether or not the information in the August 20, 1995 letter from Genwal to Dave DARBY, concerning minimum measured flow and the commitment to leave at least one half the minimum flow, has been given to the USFS and if the USFS has made any indication whether or not the information and commitment are satisfactory.
- 3) Present the information in the August 20, 1995 letter to Dave DARBY (concerning minimum measured flow and the commitment to leave at least one half the minimum flow) in a format to be included in the MRP.

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